Advanced Copier and Printer Technology

Advanced reprographic technology improved dramatically during the 1990s. The technology is expected to continue to improve into the next century. Some types of equipment are capable of accurately reproducing the colors and fine-line detail of security documents and are seen as a threat to currency.

Market surveys indicate that as quality, affordability, and availability increase, advanced equipment will become the standard in offices, copy centers and printing facilities. The color copier/printer of the '90s has been compared with the color television of the '70s, when color became the standard, rather than the exception.

Of the new technologies, advanced copiers, printers, electronic digital scanners, color workstations and computer software can present threats to currency. During the early '90s, the new technologies used in advanced copiers and printers merged and interfaced with each other. This equipment does not require extensive expertise to operate and is becoming widely accessible through copy centers and corporate offices.

Advanced Full-Color Copiers

Advanced full-color copiers have evolved into a digital electrophotographic process utilizing digital scanners and computer technology to produce high quality plain paper copies. Some of these copiers interface with personal computers. The scanner portion of the copier can be used to scan an image into the computer or as the computer's output device. In time, the high-end digital copiers may well be able to reproduce much of the fine detail of currency.

Digital Scanners

Scanner equipment electronically scans an image or text from an original document and digitizes it into a computer-readable form. Through the use of computer graphics software, the image may be displayed on a screen and changed or combined with other images. The edited image then can be stored in an electronic format, printed on a color output device or used to make offset or gravure printing plates.

Scanner equipment is no longer confined to large printing, graphic design or advertising firms. Low- and medium-quality scanners are readily available to the individual. High-quality scanners are readily available in copy centers and corporate offices. The scanners incorporated in some advanced color copiers can interface with personal computers and graphics programs.

Advanced color copiers and printing equipment using this technology can be a security threat because of the flexible editing capabilities and fine-detail reproductions. As the price of this technology continues to drop, the availability of high quality scanners will increase.

Color Ink Jet Copiers and Printers

Color ink jet copiers utilize scanner technology to digitize an image, which is then reproduced using ink jet printer technology. These machines, which are capable of producing good quality reproductions on plain paper, are widely available and inexpensive. Some of these ink jet copier machines can interface with personal computers and graphics software. The machines then can be used to scan an image into the computer or to output an image.

Personal Computers and Graphics Software

Personal computers and graphics software combine the latest personal computer, graphics software, printer/copier, video and scanner technologies. The images can be stored indefinitely, copied electronically or transmitted to another location for printing. Output quality depends on the scanner and printer dpi resolution capabilities. Printer resolution is of greater importance because scanner input can be edited to enhance image quality. As the price of personal computer technology continues to drop, the availability and use of this technology to counterfeit currency and other security documents will increase.